

STANDARD FORM NO. 64

## Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files (25/7) CCR

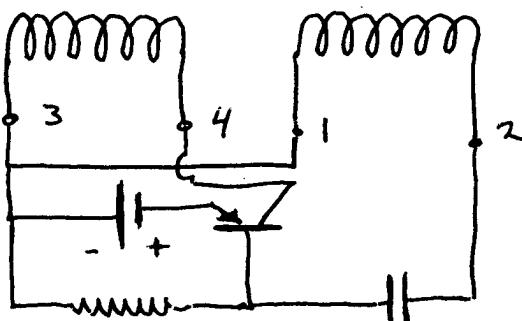
DATE: 19 August 1957

FROM : [redacted]

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SUBJECT: Report on Elgin Electro-Mechanical Oscillator

1. The Elgin Electro-Mechanical Oscillator type E-100 was hooked up in the following suggested circuit:



2. The transistor was a CK721 and the battery drain at 1.5V was in the neighborhood of 0.5 ma. The value of the capacitor was found not to be critical and anything larger than 1.0 mfd was found to be satisfactory. The base biasing resistor was found to be somewhat critical in value. Maximum output was noted while employing a 100,000 ohm resistor. By varying the value of this resistor it was found possible to change the frequency 1.3 cycles (999.1 to 1000.4).

3. The frequency was also effected by the plane in which the oscillator lay. On its side the frequency was measured to be 999.6 cycles. Rotating it on its side produced some detectable frequency variation. Placing the oscillator in a vertical position with output terminals down the frequency remained at 999.6 cycles. With output terminals up the frequency decreased to 999.0 cycles.

4. Placing the Electro-Mechanical Oscillator in a temperature chamber with the rest of the circuitry on the outside the frequency varied with temperature as indicated below:

ORIGINAL GLRY	23 59 79	Temperature	Frequency
□ DECL	4-12-2010	-40° C	1002.4
EXT BYND & TIME BY	Same	-20° C	999.0
REASON	3d (3)	0° C	998.3
		+20° C	998.2
		+40° C	997.6

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ORIG COMP		ORIG		TYPE	
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